

Commonwealth of Kentucky
Division for Air Quality
PERMIT FACT SHEET

Construction/Operating Permit # VS-04-002
General Motors Corporation
600 CORVETTE DRIVE, BOWLING GREEN, KY
December 8, 2004
Frough Sherwani, REVIEWER
AFS Plant I.D. # 21-227-00005
AI # 4109

DESCRIPTION:

General Motors Corporation owns and operates an automobile manufacturing facility located at 600 Corvette Drive in Bowling Green, Warren county, KY. The facility submitted a source wide Title V permit application on December 11, 1998. The source has several constructions, operating and one PSD permit. The facility yet not been issued a source wide Title V permit.

The source submitted an application on August 31, 2004 to replace the existing Dip Prime tank listed in Permit # O-85-02 (Revision 1) with a new electrocoat dip prime tank. The existing RTO will be used to control the new electrocoat dip prime tank exhaust as well as the existing oven which will continue to be used to cure the prime coating. Additionally, a small building will be added to house the new electrocoat dip prime tank.

Emission Point 12E

Electrocoat Dip Prime Tank

- | | |
|--------------------------------|---|
| • Maximum coatings consumption | 1.6 gal/car |
| • Hourly Car Production | 20 cars (Permit # O-85-02 (Revision 1)) |
| • Annual Car Production | 76410 (Permit # O-85-02 (Revision 1)) |
| • Proposed Construction | Mid December 04 |

Type of control, enclosure, and efficiencies:

- | | |
|--------------------------|-------------------------------------|
| • Control Equipment | Regenerating Thermal Oxidizer (RTO) |
| • Destruction Efficiency | 92.5% tested on August 25, 1995 |

Emission factors and their source:

Mass balance is used for the emission factors for VOC and HAPS.

A. Precluded Regulations:

1. 40 CFR Part 60 - Subpart MM - Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations

The replacement of the existing non-electrostatic dip prime tank with the proposed electrocoat dip prime tank will make the proposed system (dip tank and oven) an electrodeposition primer system.

Because of the unique Bowling Green assembly process the above NSPS for electrodeposition primer does not apply to the proposed tank replacement. Section 60.391(a) defines electrodeposition to which the NSPS applies as “a method of applying a prime coat by which the automobile or light -duty truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body”(emphasis added.) The phrase “automobile or light-duty truck body” is defined in the same section as “the exterior surface of an automobile or light-duty truck including hoods, fenders, cargo boxes, doors, and grill opening panels.” At the GM Bowling Green facility, the only component that goes through the electrodeposition prime system is an interior structural support frame that contains no vehicle exterior surface components such as those listed above. Therefore, the proposed electrodeposition primer system is regulated as a miscellaneous metal part and is not subject the 40 CFR Part 60, subpart MM, NSPS.

2. 401 KAR 61:132, Existing miscellaneous metal parts and products surface coating operations.

Applies to existing sources located in ozone non-attainment areas; does not apply to the GM Bowling Green facility because it is located in an attainment area.

B. Applicable Regulations:

1. 401 KAR 59:225, New miscellaneous metal parts and products surface coating operations.

The affected facility shall be exempt from Section 3 of 401 KAR 59:225 regulation if the VOC content of the coating is less than 0.36 kg/l of coating (three (3.0) lb/gal), excluding water or exempt solvent or both, delivered to applicators associated with color coat or first coat on untreated ferrous substrate.

2. 40 CFR Part 63 Subpart IIII, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks

The automobile and light duty truck surface coating MACT (40 CFR part 63, subpart IIII) regulates the hazardous air emissions (HAPs) from the surface coating of automobiles and light duty trucks. The affected sources (40 CFR 63.3090) are electrodeposition primer, primer surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operation coatings and thinners used in the coatings. The MACT also regulates deadener and sealers and adhesives that are not part of the glass bonding system. In addition to the emission limits established at Section 63.3090 for the above mentioned sources, Section 63.3094 requires that work practice plans be established to minimize organic emissions from cleanup operations.

The MACT at Section 63.3082 (c) allows the option to make any coating operation that would otherwise be subject to the miscellaneous metal parts and products MACT (Part 63 Subpart

MMMM) or the surface coating of plastic parts and products MACT (Part 63 subpart PPPP) subject to subpart IIII instead if that coating operation applies coatings to parts intended for use in new automobiles and light duty trucks.

The source's intent is to accept this option so that all aspects of the electrodeposition primer, primer surfacer, and topcoat operations will be regulated by Part 63, but under the subpart IIII MACT.

Under this MACT, a source can be new, reconstructed or existing. An affected source is new as defined in Section 63.3082(e) if construction commenced after December 24, 2002 and the construction is of a completely new automobile and light duty assembly plant where no automobile and light duty assembly plant had previously existed.

Section 63.3082(f) defines a reconstructed source as one where the paint shop undergoes replacement of components to such an extent that the fixed capital cost of the new components exceeds 50 percent of the cost that would be required to construct a new paint shop. A paint shop is defined at Section 63.3176 as the collection of all areas at the facility in which bodies or body parts are coated, including electrodeposition, primer surfacer, topcoat, final repair, glass bonding primer, glass bonding adhesive, deadener, adhesives and sealers. Because only the electrocoat tank is being replaced, the cost is far less than 50 percent of replacing the entire paint shop. Therefore, the proposed electrocoat tank replacement is an existing source per Section 63.3083 (g), because it is not new or reconstructed.

For an affected source, Section 63.3083(b) defines the compliance date as April 26, 2007. Section 63.3110 (b) states that existing sources that have previously submitted notification of applicability pursuant to section 112(j) of the CAA are not required to submit an initial notification except to identify and describe all additions to the affected source made pursuant to Section 63.3082(c). The source has submitted the 112(j) notification to the Division office on April 29, 2002. The source is required to identify that they are subject to regulation under subpart IIII coating operations that would otherwise be subject to Subpart MMMM and PPPP as previously stated. This notification will be required by April 26, 2005.

For capture system efficiency (Section 63.3165), the source must use the procedures and test methods in this section to determine capture efficiency as part of the performance test required by §63.3160. For purposes of this subpart, a spray booth air seal is not considered a natural draft opening in a PTE or a temporary total enclosure provided the source demonstrates that the direction of air movement across the interface between the spray booth air seal and the spray booth is into the spray booth. Also for purposes of this subpart, a bake oven air seal is not considered a natural draft opening in a PTE or a temporary total enclosure provided the source demonstrates that the direction of air movement across the interface between the bake oven air seal and the bake oven is into the bake oven. The source may use lightweight strips of fabric or paper, or smoke tubes to make such demonstrations as part of showing that capture system is a PTE or conducting a capture efficiency test using a temporary total enclosure. The source cannot count air flowing from a spray booth air seal into a spray booth as air flowing through a natural draft opening into a PTE or into a temporary total enclosure unless the source elects to treat that spray booth air seal as a natural draft opening. The source cannot count air flowing from a bake oven air seal into a bake oven as air flowing through a natural draft opening into a PTE or into a temporary total enclosure unless it elects to treat that bake oven air seal as a natural draft opening.

EMISSION AND OPERATING CAPS DESCRIPTION:

1. Per permit # O-85-02 (Revision 1), the source has accepted a facility-wide cap on hourly car

production of no more than twenty (20).

2. Per permit # O-85-02 (Revision 1), the source has accepted a facility-wide cap on annual car production of no more than 76410.
3. The Electrocoat Dip Prime Tank shall be exempt from Section 3 of regulation 401 KAR 59:225, if the VOC content of the coating is less than 0.36 kg/l of coating (three (3.0) lb/gal), excluding water or exempt solvent or both, delivered to applicators associated with color coat or first coat on untreated ferrous substrate.